REMARKS

Applicant notes that the Office has indicated that claim 34 is both rejected and allowable at the same time. For purposes of this Response, claim 34 will be treated as though the Office has rejected claim 34.

In view of the following remarks, Applicant respectfully requests reconsideration and allowance of the subject application.

35 U.S.C. §102 Claim Rejections

Claims 1-4, 7-10, 12, 13, 16-21, 23, 24, 26-28, 31-34, 37, 38, 40-42, 45-48 and 51 are rejected under 35 U.S.C. §102(e) as being allegedly anticipated by Lim et al. (US 5,884,024) (hereinafter, "Lim"). Applicant respectfully traverses the rejection.

Lim teaches a method and apparatus for allocation of IP addresses that discourages IP address misuse. (col. 2, lines 40-42). IP addresses within IP networks are assigned using the Dynamic Host Configuration Protocol (DHCP) defined in Internet RFC 1541. In networks that use the DHCP protocol, client systems request IP addresses from a DHCP server. The DHCP server allocates an IP address for use by the requesting client system and sends the client a message telling the client system which IP address to use. The IP address allocated by the DHCP server is "leased" to the client system for a fixed period of time. Subsequently, the client system is responsible for periodically renewing the lease of the IP address. (col. 1, line 62 - col. 2, line 6).

In Lim, a computer network includes a series of client systems coupled through modems to a router. The router forwards packets between the client systems and one or more servers according to IP addresses. The computer

network also includes one or more DHCP server systems that provide for allocation of the IP addresses. (col. 2, lines 40-51). The network also includes a secure DHCP relay agent that forwards DHCP messages between the client systems and the DHCP servers. The secure DHCP relay agent monitors IP packets within the network and detects DHCP broadcast messages. The secure DHCP relay agent encodes a "trusted identifier" within the vendor-specific information of DHCP broadcast messages. The trusted identifier is an unforgeable value that is associated with the source of the DHCP broadcast message, such as the modem id of the cable modem that connects the client system sending the DHCP broadcast message to the router. (col. 2, lines 52-67).

Within the network, cable modems and a cable router act as a secure IP relay agent. Working with the secure DHCP relay agent, the secure IP relay agent monitors allocation of IP addresses by the DHCP server to the client systems. After allocation of an IP address to a client system, the secure IP relay agent discards all IP packets originating from the client system that do not include the assigned IP address. The secure IP relay agent thus prevents the client systems from sending IP packets with forged source addresses. (col. 3, lines 1-10).

Applicant's claim 1 recites, in part:

> monitoring Internet protocol data packets transmitted from one or more clients to a server;
> obtaining a network address from an IP data packet transmitted by a client; and
> *processing IP data packets from the client if a Network address that is uniquely associated with the client is stored in a client table.*
> (emphasis added).

Regarding **claims 1** and **45** (claim 45 recites elements similar to claim 1), the Office asserts that Lim teaches "processing IP data packets from the client if a Network address that is uniquely associated with the client is stored in a client table" at col. 3, lines 23-35. However, as noted above, Lim provides a method and apparatus for assigning IP addresses. Lim does not teach processing IP packets from a client if the client's associated network address is stored in a client table. Lim teaches the allocation of an IP address by a DHCP server to a client. An IP relay agent (a router) monitors the IP address allocation and routes packets between the client and other servers accordingly. That is, the IP relay agent discards all IP packets originating from the client that do not include the assigned IP address, while relaying those IP packets from the client that include the assigned IP address. (col. 3, lines 1-10).

At col. 3, lines 23-35, Lim discusses broadcast DHCP messages that are embedded with a trusted identifier. A DHCP server combines the trusted identifier with a lease identification cookie from the message in order to identify and retrieve an existing lease (for the client) from a lease database. This prevents a client system from accessing IP address leases not associated with its trusted identifier.

Thus, Lim does not process IP packets from a client if the client's associated network address is stored in a client table. Rather, Lim retrieves IP leases from a lease database after identifying them through a trusted identifier and a lease identification cookie.

For at least the reasons noted above, it is clear that Lim does not teach all the elements of Applicant's claims 1 and 45. Therefore, the §102 rejection to

claims 1 and 45 cannot stand, and Applicant respectfully requests that the §102 rejection to claims 1 and 45 be withdrawn.

Claims 2-6 and 46-51 depend, respectively, from claims 1 and 45. Accordingly claims 2-6 and 46-51 incorporate the elements of their respective base claims and are allowable by virtue of at least their respective dependencies from allowable claims 1 and 45, and for the additional elements recited therein that are not taught by Lim. Applicant therefore respectfully requests withdrawal of the §102 rejection of claims 2-6 and 46-51.

Independent **claim 7** recites, in part:

> detecting when a current client attempts to establish a connection with a server;
>
> . . . .
>
> determining if a total number of previous clients having access to the server is less than a client limit;
> determining if the current client has previously been allowed to access the server;
> providing access to the server if the total number of previous clients having access to the server is less than a client limit;
> providing access to the server if the total number of previous clients is greater than or equal to the client limit and if the current client has previously been allowed to access the server;

Regarding claim 7, the Office asserts that at col. 2, lines 59-67, Lim teaches "determining if a total number of previous clients having access to the server is less than a client limit". However, this is not accurate. In Lim, a DHCP server determines the number of IP address leases that are assigned to a trusted identifier. The trusted identifier is associated with a particular client. If the number of IP address leases exceeds a present limit, the DHCP server does not grant an IP address lease to that client. In this way, the DHCP server prevents a single client from obtaining an inordinate number of IP address leases. (col. 3, lines 47-54).

Lim does not discuss whether "a total number of previous clients having access to the server is less than a client limit" as recited in Applicant's claim 7.

The Office further asserts that Lim teaches, at col. 2, lines 59-67, "providing access to the server if the total number of previous clients having access to the server is less than a client limit". As noted above however, Lim does not discuss the total number of previous clients having access to the server with regard to a client limit. Rather, Lim discusses the number of IP address leases that are assigned to a trusted identifier that is associated with a particular client and grants an IP address lease to that client if the number does not exceed a present limit. (col. 3, lines 40-55).

The Office further asserts that Lim teaches, at col. 3, lines 40-55, "providing access to the server if the total number of previous clients is greater than or equal to the client limit and if the current client has previously been allowed to access the server". Again, however, Lim does not discuss the total number of previous clients with respect to a client limit. Instead, Lim discusses IP address leases assigned to a trusted identifier associated with a particular client. If the number of those IP address leases exceeds a limit, an IP address lease will not be granted to that client. (col. 3, lines 40-55).

For at least the reasons provided above, it is clear that Lim does not teach all the elements of Applicant's claim 7. Therefore, the §102 rejection to claim 7 cannot stand, and Applicant respectfully requests that the §102 rejection to claim 7 be withdrawn.

Claims 8-18 depend from claim 7 and thereby incorporate the elements of claim 7. Therefore, claims 8-18 are allowable by virtue of at least this dependency from allowable claim 7, and for the additional elements recited therein that are not

taught by Lim. Applicant therefore respectfully requests withdrawal of the §102 rejection of claims 8-18.

Independent **claim 19** recites, in part:

> A server that provides access to a limited number of clients, comprising:
> memory;
>
> . . .
>
> a client limit stored in the memory, the client limit denoting a number of unique clients that are allowed to access the server;
> an IP stack in the memory that is used to process data packets transmitted from clients;
> a client table in the memory for storing a unique Network address for each client that accesses the server; and
> a communications filter configured to allow access to a first client if the total number of clients that have accessed the server is less than the client limit, or if the total number of clients that have accessed the server is greater than or equal to the client limit and the first client has previously accessed the server.

Regarding claim 19, the Office asserts that Lim teaches, at col. 6, lines 45-54, "a client limit stored in the memory, the client limit denoting a number of unique clients that are allowed to access the server". However, this is not accurate. At col. 6, lines 45-54, Lim discusses a lease database that includes one record for each IP address that may be leased by the DHCP server. Lim does not discuss a client limit at all. Rather, Lim discusses IP addresses maintained in a lease database.

The Office further asserts that Lim teaches, at col. 3, lines 20-55, "a communications filter configured to allow access to a first client if the total number of clients that have accessed the server is less than the client limit, or if the total number of clients that have accessed the server is greater than or equal to the client limit and the first client has previously accessed the server". However, this

issue has already been addressed above with respect to claim 7. Specifically, in Lim, a DHCP server determines the number of IP address leases that are assigned to a trusted identifier that is associated with a particular client. If the number of IP address leases exceeds a present limit, the DHCP server does not grant an IP address lease to that client. There is no discussion in Lim regarding whether a "total number of clients that have accessed the server is greater than or equal to the client limit" as recited in claim 19.

For at least these reasons, it is clear that Lim does not teach all the elements of Applicant's claim 19. Therefore, the §102 rejection to claim 19 cannot stand, and Applicant respectfully requests that the §102 rejection to claim 19 be withdrawn.

Claims 20-25 depend from claim 19 and thereby incorporate the elements of claim 19. Therefore, claims 20-25 are allowable by virtue of at least this dependency from allowable claim 19, and for the additional elements recited therein that are not taught by Lim. Applicant therefore respectfully requests withdrawal of the §102 rejection of claims 20-25.

The Office rejects independent **claim 26** on the same basis asserted in its rejection of claim 7, discussed herein above. Furthermore, claim 26 includes elements that parallel those discussed above regarding claim 7. Specifically, claim 26 recites, in part:

> A method for providing server access to a limited number of clients, the method comprising:
> . . .
> determining if a client limit has been reached; and
> providing access to a first client if the client limit has been reached, or if the first client has previously accessed the server.

Accordingly, those arguments already presented above regarding claim 7 apply similarly toward the rejection of claim 26. More specifically, Lim does not discuss a limited number of clients, determining if a client limit has been reached, or providing access to a first client if the client limit has been reached, as included in claim 26.

For at least these reasons, Lim does not teach all the elements of Applicant's claim 26. Therefore, the §102 rejection to claim 26 cannot stand, and Applicant respectfully requests that the §102 rejection to claim 26 be withdrawn.

Claims 27-30 depend from claim 26 and thereby incorporate the elements of claim 26. Therefore, claims 27-30 are allowable by virtue of at least this dependency from allowable claim 26, and for the additional elements recited therein that are not taught by Lim. Applicant therefore respectfully requests withdrawal of the §102 rejection of claims 27-30.

The Office rejects independent **claim 31** on the same basis asserted in its rejection of claim 19, discussed herein above. Furthermore, claim 31 includes elements that parallel those discussed above regarding claim 19. Specifically, for example, claim 31 includes a client limit field containing a client limit value that denotes a maximum number of clients that may access the IP stack. Arguments already presented above regarding both claims 19 and 7 apply similarly toward the rejection of claim 31. More specifically, Lim does not discuss a limited number of clients or client limit values. Rather, Lim discusses the number of IP address leases that are assigned to a trusted identifier that is associated with a particular client and grants an IP address lease to that client if the number does not exceed a present limit.

For at least these reasons, Lim does not teach all the elements of Applicant's claim 31. Therefore, the §102 rejection to claim 31 cannot stand, and Applicant respectfully requests that the §102 rejection to claim 31 be withdrawn.

Claims 32-36 depend from claim 31 and thereby incorporate the elements of claim 31. Therefore, claims 32-36 are allowable by virtue of at least this dependency from allowable claim 31, and for the additional elements recited therein that are not taught by Lim. Applicant therefore respectfully requests withdrawal of the §102 rejection of claims 32-36.

Independent **claim 37** recites, in part:

> determining a first Internet Protocol (IP) address transmitted from a first client to a server;
> searching a client table for the first Network address; and
> allowing the first client to access the server if the first Network address is found in the client table.

As noted above, Lim provides a method and apparatus for assigning IP addresses. Lim does not allow access to a server by a client on the basis of whether a network address is found in a client table. Rather, Lim teaches the allocation of an IP address by a DHCP server to a client. The DHCP server allocates an IP address for use by the requesting client and sends the client a message telling the client which IP address to use. A secure IP relay agent monitors allocation of IP addresses by the DHCP server to the client and discards all IP packets originating from the client system that do not include the assigned IP address. This prevents the client from sending IP packets with forged source addresses. Thus, Lim does not teach or discuss "allowing the first client to access the server if the first Network address is found in the client table" as recited in claim 37.

For at least the reasons noted above, it is clear that Lim does not teach all the elements of Applicant's claim 37. Therefore, the §102 rejection to claim 37 cannot stand, and Applicant respectfully requests that the §102 rejection to claim 37 be withdrawn.

Claims 38-39 depend from claim 37 and thereby incorporate the elements of claim 37. Therefore, claims 38-39 are allowable by virtue of at least this dependency from allowable claim 37, and for the additional elements recited therein that are not taught by Lim. Applicant therefore respectfully requests withdrawal of the §102 rejection of claims 38-39.

The Office rejects independent **claim 40** on the same basis asserted in its rejection of claim 19, discussed herein above. Furthermore, claim 40 includes elements that parallel those discussed above regarding claim 19. Specifically, for example, claim 40 includes retrieving a client limit and allowing client access if a number of client entries is less that the client limit. Arguments already presented above regarding both claims 19 and 7 apply similarly toward the rejection of claim 40. More specifically, Lim does not discuss a client limit or allowing access to a client on the basis of a client limit. Rather, Lim discusses the number of IP address leases that are assigned to a trusted identifier that is associated with a particular client and grants an IP address lease to that client if the number does not exceed a present limit.

For at least these reasons, Lim does not teach all the elements of Applicant's claim 40. Therefore, the §102 rejection to claim 40 cannot stand, and Applicant respectfully requests that the §102 rejection to claim 40 be withdrawn.

Claims 41-44 depend from claim 40 and thereby incorporate the elements of claim 40. Therefore, claims 41-44 are allowable by virtue of at least this

dependency from allowable claim 40, and for the additional elements recited therein that are not taught by Lim. Applicant therefore respectfully requests withdrawal of the §102 rejection of claims 41-44.

Allowable Subject Matter

Claims 5, 6, 11, 14, 15, 22, 25, 29, 30, 35-36, 39, 43, 44, 49, and 50 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

As noted above, however, the base claims to dependent claims 5, 6, 11, 14, 15, 22, 25, 29, 30, 35-36, 39, 43, 44, 49, and 50 are allowable based on the argument presented above. Therefore, dependent claims 5, 6, 11, 14, 15, 22, 25, 29, 30, 35-36, 39, 43, 44, 49, and 50 are allowable at least on the basis of their respective dependency from their allowable base claims. Accordingly, the objection can be removed.

Conclusion

All pending claims are in condition for allowance. Applicant respectfully requests reconsideration and prompt issuance of the subject application. If any issues remain that prevent issuance of this application, the Examiner is urged to contact the undersigned attorney before issuing a subsequent Action.

Respectfully Submitted,

Dated: _____7/20/04_____   By: _____

Nathan R. Rieth
Reg. No. 44302
(509) 324-9256; X233